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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,269	03/28/2005	Francis Briand	Serie 5879	7498

40582 7590 10/06/2005
AIR LIQUIDE
2700 POST OAK BOULEVARD, SUITE 1800
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EXAMINER

EVANS, GEOFFREY S

ART UNIT PAPER NUMBER

1725

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/501,269

Applicant(s)

BRIAND ET AL.

Examiner

Geoffrey S. Evans

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24, 25 and 28-30 is/are allowed.
- 6) ☒ Claim(s) 15, 18-23, 26 and 27 is/are rejected.
- 7) ☒ Claim(s) 16 and 17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20040709.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 15,18,19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faerber in U.S. Patent No. 6,281,472. Faerber discloses laser welding with a helium-nitrogen binary gas (see column 3, lines 27-29). Since Faerber discloses that helium is superior to nitrogen in preventing plasma formation(see column 2,lines 50-55) one of ordinary skill in the art would recognize that to counter act the promotion of plasma caused by increasing the laser power plasma formation by increasing the proportion of helium in the binary gas mixture.

4. Claims 20-22,27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faerber as applied to claim 15 above, and further in view of Arai in U.S. Patent No. 4,945,207. Arai discloses producing gas mixture on site through a gas mixer (included in element 31), see column 3,lines 5-12. It would have been obvious to adapt Faerber in view of Arai to provide this to control the binary gas composition with flexibility in easily changing the composition of the gas as contrasted to a premixed gas. Regarding claim 27, Faeber discloses a laser power as high as 3 kW (see column 3,line 45).

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5. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faerber as applied to claim 15 above, and further in view of Mori et al. in U.S. Patent No.

5,539,180. Mori et al. teaches using premixed binary gases (any of elements 41-44) in a laser welding apparatus. It would have been obvious to adapt Faerber in view of Mori et al. to provide this to ensure the proper ratio of gas is used by the user.


6. Claims 24,25,28-30 are allowed.

7. Claims 16, and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nakada in Japan Patent No. 61-232,087 discloses laser welding with a binary gas mixture of helium and nitrogen gas (see figure 3). Shiozaki et al. in Japan Patent No. 9-220,682 discloses laser welding with a binary gas mixture of helium and nitrogen gas.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey S Evans whose telephone number is (571)-272-1174. The examiner can normally be reached on Mon-Fri 6:30AM to 4:00 PM, alternate Fridays off. His supervisor, Tom Dunn, has a phone number of (571)-272-1171. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

GSE


Geoffrey S. Evans
Primary Examiner
Group 1700